

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-15. (Canceled):

16. (Currently amended): A method for inspecting an exposure device, comprising:

a step of guiding light emitted from an illumination optical system to a photomask where a pattern is formed of an optical member including a light transmission pattern as a diffraction grating pattern, in which a first light transmission part and a second light transmission part having a lower transmittance than the first light transmission part are repeated in a predetermined direction, a plurality of ratios are given between lengths of the first and second light transmission parts in a repetition direction, phases of lights which pass through the first and second light transmission parts adjacent to each other differ from each other, and a periphery of the light transmission pattern is shielded by an opaque area, such that a plurality of ratios are given between the light transmission part and the opaque part;

a step of irradiating diffraction light, which has passed through the photomask, onto a projection optical system, thereby to transfer the pattern to a wafer and to form a pattern reflecting an intensity distribution of the diffraction light; and

a step of measuring a change of transmittance depending on a light path of the projection optical system, based on a pattern image of the diffraction light transferred to the wafer.

17. (Original): A method according to claim 16, wherein said pattern transfer is performed in which the photomask and the wafer are non-conjugate with respect to the projection optical system.

18. (Original): A method according to claim 16, wherein
the pattern formed on the wafer is made of a predetermined material, and
the change of the transmittance is measured by measuring a film
thickness of the pattern transferred to the wafer and by obtaining a light intensity of the
diffraction light, based on a predetermined relationship between a film thickness of the
predetermined material and an irradiation light intensity.

19. (Currently amended): A method according to claim ~~[[16]]~~ 18, wherein the
predetermined relationship between the film thickness of the predetermined material
and the light intensity is a sensitivity curve expressing the relationship between the film
thickness of the predetermined material and the light intensity.

20. (Currently amended): A method according to claim 16, wherein a change
of the transmittance is measured in a manner that a boundary between an area where
photoresist was stripped and an area where photoresist was remained is regarded as
~~[[a]]~~ an equal-intensity contour curve, a plurality of equal-intensity contour curves each
being the equal-intensity contour curve are obtained respectively under different
conditions, and the plurality of equal-intensity contour curves obtained are layered
thereby to obtain an equal-intensity contour plot.